

Who Is Maintaining Certification in Internal Medicine—and Why? A National Survey 10 Years after Initial Certification

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Background: The American Board of Medical Specialties (ABMS) adopted a framework, called Maintenance of Certification (MOC), for all certifying boards to evaluate physicians' competence throughout their careers, with the goal of improving the quality of health care. The MOC participation rates of the American Board of Internal Medicine (ABIM) show that 23% of general internists and 14% of subspecialists choose not to renew their respective certificates.

Objective: To study U.S. internists' perceptions about the forces driving them to maintain certification.

Design: Mail survey.

Setting: A nationally representative sample of certified internists in the United States.

Participants: Physicians originally certified in internal medicine, a subspecialty, or an area of added qualifications in 1990, 1991, or 1992.

Results: The overall rate of response to the survey was 51%. Although 91% of all participants are still working in internal medicine or its subspecialties, this percentage is notably lower among general internists (79%). Of those still working in the field of internal medicine or its subspecialties, approximately half report being required to maintain their specialty certificate by at least 1

employer, but only approximately one third of those who completed or enrolled in MOC report this requirement as a reason for participating. Those who completed or enrolled in MOC do so more for positive professional reasons than for monetary benefits or professional advancement. The most common reasons for not participating are the perceptions that it takes too much time, is too expensive, and is not required for employment.

Limitations: Respondents were volunteers from an early cohort of diplomates entering the program, and those with less positive attitudes may have responded at higher rates. Results are based on self-reported data, and misconceptions about program requirements may have led to some inaccurate responses.

Conclusions: The relatively large percentage of general internists who left internal medicine mostly to work in another medical field explains why rates of MOC participation for general internists seem lower than those for subspecialists (77% vs. 86%). Although positive professional reasons clearly have a compelling internal influence on program participation, it is less clear whether employers' requirements are an equally compelling external influence. Although half of all respondents report that MOC is required by 1 of their employers, only one third of those who participate in the program describe it as a reason for participating.

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Improving the quality of patient care dominates the health care agenda (1–4). Recently, a great deal of attention has focused on redesigning health care delivery systems to make them more fail-safe, but there is no denying that state-of-the-art knowledge on the part of the individual physician remains a key factor in ensuring quality care (5). Professional societies and certifying boards exist to improve and assess the quality of health care provided by an individual physician. Professional societies, such as the American College of Physicians (ACP), provide continuing education to translate medical knowledge into best practices and strive to foster excellence and professionalism in the practice of medicine. The 24 certifying boards of the American Board of Medical Specialties (ABMS) now issue time-limited certificates to physicians who meet rigorous standards through a process that recognizes that medical knowledge and practice must be renewed to demonstrate ongoing competence in an environment with rapidly changing medical information and technology (6–9). The American Board of Internal Medicine (ABIM), the ABMS certifying board that issues the largest number of certi-

icates, offers certificates in general internal medicine, 9 subspecialties, and 5 areas of added qualifications.

In 2002, the ABMS adopted a framework in conjunction with the Accreditation Council for Graduate Medical Education's Outcome Project (10) and the General Competencies Project (11) for all boards to evaluate physician competence at the conclusion of training (initial certification) and throughout their careers (Maintenance of Certification [MOC]). The overarching goal for certification and MOC is to "protect the

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Context

Maintenance of certification (MOC) by the American Board of Internal Medicine (ABIM) requires participation in its Continuous Professional Development program. Understanding the attitudes and perceptions of internists regarding the MOC process would be helpful in increasing participation in quality improvement efforts.

Contribution

Diplomates whose ABIM certificates were dated to expire by December 2002 were surveyed regarding reasons for participating or not participating in the program. The most common reasons for participation were to improve professional image and to update knowledge. Nonparticipants perceived MOC as too time-consuming.

Implications

In general, physicians seem to value the MOC process for its effort to improve quality of care and patient safety.

—The Editors

public and patients by attesting to the quality, safety and effectiveness of U.S. medical practitioners" (6).

In the 1970s and 1980s, the ABIM had a program for voluntary recertification of lifetime certificates, which drew relatively few participants. Consequently, in 1990, the ABIM began issuing certificates with a 10-year duration. These certificates must be renewed through the MOC program to remain valid.

The ABIM's MOC program, called Continuous Professional Development (CPD), began in 1995. As of December 2003, 77% of physicians holding 10-year certificates in internal medicine only (general internists) had enrolled in the program. Eighty-six percent of physicians with 10-year certificates in both internal medicine and a subspecialty or added qualifications (subspecialists) enrolled in the program for their subspecialty, and 60% of this same cohort enrolled for their internal medicine certificate. Because board-certified physicians (called diplomates) lose their certification status after 10 years, both the ABIM, who administers the program, and ACP, whose membership encompasses approximately 119 000 internal medicine generalists, subspecialists, and students, wished to understand why 23% of general internists and 40% of subspecialists are not renewing their internal medicine certificate and why 14% of subspecialists are not renewing their subspecialty or added qualifications certificate.

Because little is known about the forces that drive participation in MOC, the ABIM and ACP conducted a national survey of ABIM diplomates who earned certificates in internal medicine, a subspecialty, or an area of added qualifications in 1990, 1991, or 1992. This group represents an early cohort of diplomates with 10-year certificates who had had sufficient time to renew them. This study aimed

to identify factors that influence participation in MOC and explore how diplomates perceive the value of the MOC process. We describe practice characteristics, perceptions, and attitudes about MOC and reasons for maintaining or not maintaining certification. We compare attitudes of general internists with those of subspecialists and of diplomates who have completed, have enrolled in but have not completed, or have never enrolled in MOC. We conclude with implications for MOC programs and the quality movement.

METHODS**Program Description**

The ABIM's MOC program has 3 components: 1) verification of credentials, 2) proctored examination, and 3) self-evaluation (12). Verification of credentials means physicians must have a valid and unrestricted license and provide a recommendation from an officer of a hospital or health care organization about their professional standing in the community. The proctored examination measures medical knowledge in a discipline, requires a passing grade, is given at computer testing sites, and may be taken as early as 5 years before a certificate expires. Self-evaluations encourage lifelong learning in medical knowledge or skills and practice-based performance and improvement. During the period of the study, most diplomates completed self-evaluations consisting of open-book, take-home modules of 60 multiple-choice questions in internal medicine, a subspecialty, or an area of added qualifications. As the MOC program evolves, there are a greater number of options and more flexibility.

Physicians are encouraged to complete the program over 10 years. Continuing medical education (CME) credit accompanies successful completion of the proctored examination and self-evaluation modules. On average, diplomates receive 120 CME credits for completing the program requirements (ABIM internal report, November 2004. Unpublished data.).

Study Design and Participants

The sampling frame of 23 108 diplomates included those initially certified by ABIM in 1990 or afterward whose certificate would expire by December 2002. These diplomates held a total of 24 344 time-limited certificates as of 24 February 2004.

To ensure a representative sample of participants who completed the MOC, each diplomate was assigned to 1 of 39 internal medicine, subspecialty, or added qualifications groups on the basis of the certificate or certificates earned in 1990, 1991, or 1992; the kind of MOC sought; and status in MOC at the time of the survey. The 3 kinds of MOC include 1) general internists eligible to renew a time-limited internal medicine certificate—5898 diplomates who earned an internal medicine certificate in 1990, 1991, or 1992 and no other certificates in later years; 2) subspecialists eligible to renew a time-limited internal medicine certificate—7367 diplomates who earned an internal medicine certificate in 1990, 1991, or 1992 and a subspecialty or added qualifications certificate in

later years; and 3) subspecialists eligible to renew a time-limited subspecialty or added qualifications certificate—9843 diplomates who earned a subspecialty or added qualifications certificate in 1990, 1991, or 1992 (most possess an internal medicine certificate without an expiration date). Status in MOC was also divided into 3 categories: 1) 13 455 physicians who completed the program, 2) 3656 who enrolled but had not completed the program, and 3) 5997 who had never enrolled. Diplomates who could have enrolled for multiple areas (for example, diplomates who earned an internal medicine and 2 different subspecialty certificates) were randomly assigned to 1 of their possible groups.

A stratified random sample of 3500 diplomates was selected so that percentage-point estimates within each kind or status group would have only a 5% margin of error. Some subspecialty groups were oversampled to ensure a 95% probability of collecting responses from at least 2 physicians in each group. Those not enrolled in MOC were oversampled because they were regarded as being less likely to respond. Sample size requirements and oversampling rates were determined by using the Power Analysis and Sample Size (PASS 2000) software (13) and the PROBYPR (cumulative hypergeometric function) in SAS, version 9.0 (SAS Institute, Cary, North Carolina). Detailed analyses of the 95% CIs for all estimates show that the accuracy of the primary estimates was within the range limits originally planned for the study. (Sample size calculations used in the planning stage of the study were based on the assumption that survey percentage estimates around 50% would have 95% CIs of ± 5 percentage points [that is, 10% of the estimate]. As expected, the median 95% CI for estimates between 45% and 55% [$n = 88$] was $\pm 5\%$ with a range of $\pm 2\%$ to $\pm 12\%$. For estimates ranging between 25% and 75% [$n = 552$], the median 95% CI was $\pm 6\%$ with a range of $\pm 2\%$ to $\pm 18\%$ based on an estimate of 50%. Of primary concern was precision of estimates related to the major objectives of the study. These estimates [$n = 478$] were taken from the questions related to the reasons why physicians did or did not participate in the MOC program [questions 4, 5, 11, and 12] and whether physicians planned to participate in future MOC programs [questions 6 and 13]. The median 95% CI for these “survey objectives” estimates based on a sample estimate of 50% was $\pm 6\%$ with a range of $\pm 1\%$ to $\pm 85\%$.)

Survey data were collected between mid-March and 6 August 2004. A prenotification letter was sent to the entire sample on 2 March 2004. A 4-page self-administered questionnaire was mailed on 12 March 2004, followed by a postcard reminder on 19 March, second and third questionnaires on 22 April and 7 June, respectively, and a second postcard reminder on 30 June. The officers of the ABIM and the ACP signed the cover letters that accompanied the questionnaires and reminders.

Survey Instrument

The self-administered survey (Appendix Figure, available at www.annals.org) had 20 questions and took ap-

proximately 15 minutes to complete. Questions asked about demographic and practice characteristics, whether the physician's employer required MOC, status in MOC, reasons for participating or not participating in MOC, perceptions about certified physicians, and recommendations for program changes. Survey development was based on results from routine ABIM surveys and feedback from internal medicine and subspecialty societies. The survey was pretested on 38 physicians to ensure that the questions were understandable. Twenty-one telephone interviews of physicians from the sampling frame were conducted, and 17 pilot questionnaires were completed by members of the ABIM Board of Directors and ABIM and ACP staff physicians. Revisions were based on pretest results.

Statistical Analysis

Both ABIM-ACP survey and ABIM administrative data were used in this study. Descriptive statistics, including frequencies, means, SDs, and CIs, described differences between MOC kind and status groups. Percentage estimates with 95% CIs weighted to the sampling frame to adjust for disproportional sampling and response rates were estimated by using the Taylor linearization method in SUDAAN statistical software, version 9.0 (CROSSTAB procedure)(Research Triangle Institute, Research Triangle Park, North Carolina) and were verified with SPSS Complex Samples, version 12.0 (SPSS Inc., Chicago, Illinois). Standard errors were corrected for sampling without replacement. Four trained staff from ACP and ABIM analyzed the open-ended comments by creating classification categories, coding, and verifying comments. Because of the large number of group comparisons, nonoverlapping 95% CIs were used as indices for identifying meaningful group differences.

Role of the Funding Sources

The ABIM and the ACP equally funded the study and had a role in the design, conduct, and reporting of the study and in the decision to submit the manuscript for publication.

RESULTS

Description of Respondents

From the sample of 3500 diplomates, 1799 usable questionnaires were returned for a 51% response rate. Of these, 1607 were from respondents who indicated that they are still working in the field of internal medicine or its subspecialties. Estimates for the population of internists and subspecialists in the 1990 to 1992 cohort of physicians ($n = 23\ 108$) are based on this sample of 1607. All groups of general internists and subspecialists in the original population are represented in the final sample.

The self-reported program status matched ABIM administrative records for 86% of the respondents. Discordance among the 14% remaining ($n = 217$) is probably attributable to confusion about program requirements; the largest discordant group (42%) consisted of those who completed the program but reported never to have been

Table 1. Physician and Practice Characteristics*

Characteristic	Value†
Total responders, n	1607
Men, n (%)	1253 (77)
Mean age (SD), y	47 (4.7)
Professional time, n (%)	
Clinical practice	1416 (89)
Research	105 (6)
Administration	55 (4)
Teaching	24 (1)
Other	7 (0)
Primary employer, n (%)	
Self-employed or privately owned medical group	989 (61)
Academic health center or medical school	248 (14)
Multispecialty clinic	120 (8)
Community or private hospital	90 (6)
Federal government (including military or VA)	67 (5)
Insurance company or HMO	32 (2)
Other	26 (2)
Pharmaceutical industry	20 (1)
State or local government	15 (1)
Time spent in direct patient care, n (%)	
75% or more	1238 (78)
50%–74%	158 (10)
25%–49%	96 (6)
1%–24%	89 (5)
None	26 (1)
Size of practice, n (%‡)	
1 physician (solo)	276 (17)
2–5 physicians	495 (32)
6–10 physicians	250 (16)
11–25 physicians	211 (13)
More than 25 physicians	349 (22)

* Percentages and means are based on weighted data; numbers are unweighted counts. HMO = health maintenance organization; VA = Veterans Administration.

† Values include only respondents working in the field of internal medicine or its subspecialties.

‡ No data for the 26 respondents who reported spending no time in direct patient care.

enrolled. The second largest group (18%) consisted of those who claimed to have completed the program but actually had not. Because physician attitude and perception are central to this study, the program status used for this paper is based on self-reported data.

Overall, 91% of physicians are still working in the field of internal medicine or its subspecialties; however, this proportion was notably lower for general internists (79%) than for subspecialists (96%). Of the 21% of general internists not working in internal medicine, most (78%) report working in a medical field other than internal medicine, 17% say they may return, and very few are no longer working in medicine (3%) or are retired (2%). In contrast to general internists who report they are working in internal medicine, those who say they are not are less likely to be in clinical practice (76% vs. 91%), less likely to be self-employed or working for a private medical group (44% vs. 59%), less likely to be required to maintain cer-

tification (28% vs. 57%), and less likely to have completed MOC (27% vs. 60%). Although the group not working in internal medicine is less likely to be in clinical practice than those working in internal medicine, they still claim to spend most of their time (76%) in clinical practice, likely in another medical field. Because physicians no longer working in the field of internal medicine have little reason to maintain this certification and understandably behave differently from those who are, their results have been excluded from subsequent analyses.

Table 1 describes demographic and practice characteristics for physicians still practicing in the field of internal medicine or its subspecialties. The majority of physicians spend most of their professional time in clinical practice; most are self-employed or are in a privately owned medical group. Most spend at least 75% of their professional time in direct patient care; very few spend less than 25% in direct patient care. Two thirds are in practices with 10 or fewer physicians, whereas 22% are in large groups of more than 25 physicians.

Survey Findings

The analyses examined differences in attitudes among physicians in the 3 kinds of MOC: 305 general internists eligible to renew time-limited internal medicine certificates, 663 subspecialists eligible to renew time-limited internal medicine certificates, and 639 subspecialists eligible to renew time-limited subspecialty or added qualifications certificates. Attitudes for physicians whose status in MOC differed were also compared: those who completed the program ($n = 343$ for internal medicine and $n = 295$ for subspecialty or added qualifications), those who enrolled in but did not complete the program ($n = 219$ for internal medicine and $n = 105$ for subspecialty or added qualifications), and those who never enrolled in the program ($n = 403$ for internal medicine and $n = 212$ for subspecialty or added qualifications).

Employer and Payer Requirements

As shown in Table 2, 57% of general internists report at least 1 entity (that is, academic health center, health maintenance organization or other managed care organization, insurance plans, medical group, private/community/government hospital) requiring them to maintain their internal medicine certificate, and 47% of subspecialists report being required to maintain their subspecialty or added qualifications certificate by at least 1 entity. However, only 29% of subspecialists report being required to maintain their internal medicine certificate. Not surprisingly, a larger percentage (59% [95% CI, 55% to 63%]) of those who completed MOC report being required to maintain certification compared with those who never enrolled (25% [CI, 21% to 29%]).

Reasons for Participating in MOC

Respondents to the question regarding reasons for participating are limited to those who have completed the program or have enrolled in and intend to complete the

Table 2. Variables Influencing Participation in Maintenance of Certification*

Variable	Kind of MOC (95% CI), %		
	General Internists Eligible To Renew Time-Limited IM Certificate (n = 305)	Subspecialists Eligible To Renew Time-Limited IM Certificate (n = 663)	Subspecialists Eligible To Renew Time-Limited SS/AQ Certificate (n = 639)
Certification required by at least 1 employer or payer	57 (51–61)	29 (26–32)	47 (43–51)
Reasons for participating in MOC†			
Maintain professional image	59 (52–66)	55 (49–60)	61 (56–66)
Update knowledge	51 (44–58)	60 (54–66)	60 (55–65)
Maintain or improve quality of patient care	45 (38–52)	49 (43–55)	45 (40–50)
Personal preference or interest	36 (29–43)	43 (37–49)	42 (37–47)
Required for employment	42 (35–48)	20 (15–25)	34 (29–39)
Professional advancement	19 (14–25)	22 (17–27)	30 (25–35)
Maintain or improve patient satisfaction	23 (18–29)	18 (3–23)	25 (21–30)
Monetary benefits	10 (7–15)	4 (2–7)	4 (3–7)
Reasons for not participating in MOC‡			
Too much time	60 (51–68)	59 (54–64)	48 (41–55)
Too expensive	35 (27–44)	30 (26–35)	34 (28–41)
Not required for employment	33 (25–42)	38 (33–43)	31 (25–38)
Requirements unreasonable	39 (30–48)	33 (29–38)	20 (15–26)
No monetary benefit	27 (19–36)	16 (12–20)	27 (21–34)
Not relevant to current practice	25 (18–34)	51 (46–56)	14 (10–20)
Requirements unclear	24 (17–33)	7 (5–11)	13 (8–19)
Forgot about program, may enroll	13 (8–21)	5 (3–8)	7 (4–12)
Certificate not expired	28 (21–35)	6 (4–10)	33 (27–40)
Changed career path	4 (2–10)	2 (1–4)	11 (7–17)

* Percentages are based on weighted data; numbers are unweighted counts. IM = internal medicine; MOC = Maintenance of Certification; SS/AQ = subspecialty or added qualifications. Data are missing for the question regarding status in the program for 30 respondents (3 subspecialists eligible to renew time-limited IM certificate and 27 subspecialists eligible to renew time-limited SS/AQ certificate).

† Limited to those who completed the program or those who enrolled and intend to complete it (198 general internists eligible to renew time-limited IM certificate, 295 subspecialists eligible to renew time-limited IM certificate, and 383 subspecialists eligible to renew time-limited SS/AQ certificate).

‡ Limited to those who never enrolled in the program or those who enrolled but do not intend to complete it (107 general internists eligible to renew time-limited IM certificate, 365 subspecialists eligible to renew time-limited IM certificate, and 229 subspecialists eligible to renew time-limited SS/AQ certificate).

program. They selected 1 or more reasons why they chose to participate in MOC from the list in Table 2. Reasons for participating are similar for physicians in internal medicine and subspecialty or added qualifications MOC programs, as shown in Table 2. The most common reasons, which characterize more than half of the respondents, are to maintain or improve one's professional image and to update knowledge. Approximately half report participating to maintain or improve the quality of patient care or safety, and approximately one third report participating for personal preference or interest or because it is required for employment. Approximately one quarter report participating for professional advancement or to maintain or improve patient satisfaction, and only approximately 10% report participating for direct monetary benefits. A greater percentage of general internists (42%) than subspecialists (20%) say they participate in internal medicine MOC because it is required for employment. Also, a greater percentage of those who completed internal medicine MOC (33% [CI, 29% to 38%]) than those who enrolled (20% [CI, 14% to 27%]) say they participate because it is required for employment.

Reasons for Not Participating in MOC

Respondents to the question regarding reasons for not participating are limited to those who never enrolled in or

who enrolled in but do not intend to complete the program. They selected 1 or more reasons why they chose not to participate in MOC from the list in Table 2. In contrast to the reasons for participating, the reasons chosen for not participating in MOC varied by kind of program. The most common reason for not participating in internal medicine MOC was that it was perceived to take too much time. Sixty percent of general internists and 59% of subspecialists did not participate in internal medicine MOC, and 48% of subspecialists did not participate in subspecialty or added qualifications MOC for this reason. Slightly more than half of the subspecialists reported not participating in internal medicine MOC because it was not relevant to their current practice.

For all kinds of MOC, approximately one third did not participate because it was not required for employment or it was too expensive. Approximately 30% of general internists and subspecialists who did not participate stated that it was because there was no monetary benefit; this reason was less common for subspecialists (16%) regarding their internal medicine certificate. A greater percentage of general internists than subspecialists perceived the internal medicine MOC requirements as unclear. Although 39% of general internists and 33% of subspecialists who did not

Table 3. Rate of Agreement with Statements by Kind of Maintenance of Certification*

Statement	Rate of Agreement by Kind of MOC (95% CI), %		
	General Internists Eligible To Renew Time-Limited IM Certificate (n = 305)	Subspecialists Eligible To Renew Time-Limited IM Certificate (n = 663)	Subspecialists Eligible To Renew Time-Limited SS/AQ Certificate (n = 639)
1. Allowing my IM certificate to expire would have adverse consequences for my career	53 (48–58)	21 (18–25)	NA
2. Allowing my SS/AQ certificate to expire would have adverse consequences for my career	NA	72 (69–76)	58 (55–62)
3. Internists working in direct patient care should be certified	69 (64–74)	72 (69–76)	80 (76–83)
4. Maintenance of certification is necessary for keeping up to date	37 (31–42)	47 (43–51)	46 (42–50)
5. Patients perceive certified physicians to be more competent than noncertified physicians	69 (64–74)	67 (63–70)	66 (62–69)
6. Peers perceive certified physicians to be more competent than noncertified physicians	69 (64–74)	72 (68–75)	73 (69–76)
7. The requirements for the program are appropriate	33 (28–38)	42 (38–46)	38 (34–42)

* Percentages are based on weighted data; numbers are unweighted counts. IM = internal medicine; MOC = Maintenance of Certification; NA = not applicable; SS/AQ = subspecialty or added qualifications. Data are missing for the question regarding status in the program for 30 respondents (3 subspecialists eligible to renew time-limited IM certificate and 27 subspecialists eligible to renew time-limited SS/AQ certificate).

participate in internal medicine MOC said they felt the program requirements were unreasonable, only 20% of subspecialists felt this way about subspecialty or added qualifications MOC. A small number did not participate because they had changed career paths or forgot about the program but would like to enroll. Surprisingly, approximately one third of general internists and subspecialists who did not participate said that they thought their certificate had not yet expired, whereas others thought they had never enrolled but, in fact, had completed the program. For subspecialists holding multiple certificates, some may only maintain 1 subspecialty certificate that may not have expired.

Attitudes

All respondents (both those participating and those not participating in MOC) were asked to indicate the extent to which they agreed or disagreed with 7 statements about MOC, using a 5-point scale (that is, strongly disagree, somewhat disagree, neither disagree nor agree, somewhat agree, and strongly agree). Tables 3 and 4 show responses by kind of MOC and status in MOC, respectively. Table 3 shows the proportion of physicians who agree (that is, somewhat and strongly agree categories) with these statements. More than half of general internists agree that letting their internal medicine certificate expire would have adverse consequences on their careers, whereas only 21% of subspecialists agree. As shown in Table 4, for both general internists and subspecialists, a greater percentage of those who have completed internal medicine MOC agree that an expired internal medicine certificate would have adverse consequences on their careers compared with those who enrolled in but have not completed MOC or those who have never enrolled.

Slightly less than three quarters of subspecialists whose initial subspecialty or added qualifications certificate had not yet expired agree that letting the certificate expire would have adverse consequences on their careers. Fewer

but still more than half of subspecialists agree with this statement. Not surprisingly, a greater percentage of those who have completed the subspecialty or added qualifications MOC program than those who have not completed it or never enrolled agree that letting their subspecialty or added qualifications certificate expire would have adverse consequences on their careers.

Overall, 75% (CI, 72% to 77%) of physicians agree that internists working in direct patient care should be certified. Among internists and subspecialists, a greater percentage of those who have completed internal medicine MOC (80%) believe this than those who are enrolled (62%) or have never enrolled (64%). However, among subspecialists, those who have completed, enrolled in but did not complete, or never enrolled in subspecialty or added qualifications MOC have similar positive beliefs.

Fewer physicians (44% [CI, 41% to 46%]) agree that MOC is necessary for keeping up to date; however, a greater percentage of physicians who completed internal medicine MOC agreed with this statement than those who enrolled in but have not completed the program, or those who never enrolled. Similarly, a greater percentage of physicians who completed subspecialty or added qualifications MOC agree with this statement than those who enrolled in but have not completed the program. Two thirds (CI, 64% to 69%) of respondents agree that patients perceive certified physicians to be more competent than noncertified physicians. Overall, 72% (CI, 69% to 74%) of physicians agree that peers perceive certified physicians to be more competent than noncertified physicians. The beliefs about patient and peer perceptions did not differ by program status for either internal medicine or subspecialty or added qualifications MOC.

Only 38% (CI, 36% to 41%) of respondents agree that the program requirements are appropriate, whereas approximately 21% are neutral. As shown in Table 4, this

belief differed by program status; more physicians who completed the MOC than those who enrolled but have not completed it, or those who had never enrolled, agree that requirements are appropriate.

DISCUSSION

The purpose of the study was to assess the internal and external forces that influence physicians to maintain certification. The most surprising finding is the relatively large proportion of general internists (21%) compared with the small proportion of subspecialists (5%) who claim to be working in a medical field other than internal medicine. Although this attrition may be disconcerting to the field of internal medicine, it helps explain why rates of participation in MOC for general internists seem lower than those for subspecialists (77% vs. 86%). To obtain a more realistic picture of participation rates, we adjusted the numbers to account for this attrition by making the conservative assumption that because 52% of general internists who have left internal medicine have never enrolled in MOC, they probably never will enroll. The adjustment yields an 87% participation rate for general internists in internal medicine MOC, similar to that of subspecialists in their subspecialty area.

Using data from physicians still working in the field of internal medicine, we discovered that both internal and external forces influenced program participation. Although half of all respondents report that participation in MOC is required by 1 of their employers or payers, only one third of those who participate in the program describe “required for employment” as a reason for doing so. Perhaps this is because the 1 employer or payer that requires participation is not their primary source of revenue. The fact that a higher percentage of physicians who completed the pro-

gram claim that is required by their employer suggests an external influence on participation rates, although it was clearly not the most compelling reason stated for participation. The most compelling reasons cited were internal forces—positive professional reasons—such as maintaining or improving one’s professional image, updating knowledge, and maintaining or improving quality patient care and safety. Professional advancement or monetary benefits were not cited as compelling reasons for participating, probably because these incentives have a limited (albeit increasing) presence in the current health care marketplace. The most common reasons for not participating in MOC include that it was perceived to take too much time, is too expensive, and is not required for employment. Not surprisingly, half of the subspecialists reported not participating in internal medicine MOC because they did not perceive it to be relevant to their subspecialty practice. It is probable that these physicians have practices that do not involve general internal medicine. Open-ended comments from participants were generally consistent with their responses to the survey questions.

We found that, in general, physicians seem to value certification. Two thirds agreed that both patients and peers value certified physicians more than they do noncertified physicians and that physicians working in direct patient care should be certified. In addition, more than half of internists and subspecialists perceived there would be adverse consequences on their careers if their certificate expired. Although most respondents valued certification, fewer than half of all respondents perceived the program requirements to be appropriate. This perception was more positive for those who completed the program than for those who never enrolled, probably because they have a more realistic understanding of the program requirements.

Table 4. Rate of Agreement with Statements by Status in Maintenance of Certification*

Statement	Rate of Agreement by Status in MOC (95% CI), %			
	Area	Completed	Enrolled, Did Not Complete	Never Enrolled
1. Allowing my IM certificate to expire would have adverse consequences for my career	IM	53 (47–58)	25 (20–32)	18 (14–23)
2. Allowing my SS/AQ certificate to expire would have adverse consequences for my career	SS/AQ	72 (67–77)	44 (35–54)	38 (31–45)
3. Internists working in direct patient care should be certified	IM	80 (75–84)	62 (55–68)	64 (59–69)
	SS/AQ	82 (77–86)	73 (63–81)	78 (70–84)
4. Maintenance of certification is necessary for keeping up to date	IM	49 (44–54)	38 (32–45)	35 (31–40)
	SS/AQ	52 (47–58)	35 (26–45)	39 (32–47)
5. Patients perceive certified physicians to be more competent than noncertified physicians	IM	72 (67–77)	66 (60–72)	63 (58–68)
	SS/AQ	66 (60–71)	65 (55–73)	67 (59–73)
6. Peers perceive certified physicians to be more competent than noncertified physicians	IM	75 (70–79)	70 (64–76)	65 (60–70)
	SS/AQ	77 (72–82)	62 (52–71)	71 (63–77)
7. The requirements for the program are appropriate	IM	51 (46–57)	35 (29–41)	22 (18–27)
	SS/AQ	48 (42–54)	36 (27–46)	18 (13–24)

* Percentages are based on weighted data; numbers are unweighted counts. IM = internal medicine; MOC = Maintenance of Certification; SS/AQ = subspecialty or added qualifications. For the IM area, 343 participants completed MOC, 219 had enrolled but not completed it, and 403 had never enrolled. For the SS/AQ area, 295 participants had completed MOC, 105 had enrolled but not completed it, and 212 had never enrolled. Data are missing for the question regarding status in the program for 30 respondents (3 subspecialists eligible to renew time-limited IM certificate and 27 subspecialists eligible to renew time-limited SS/AQ certificate).

Physicians who had completed MOC differed from those who had not in some important and predictable ways. Those who completed the program were more likely to claim that MOC was required, participate because it was required, possess more positive attitudes about certification, and believe that the program requirements are appropriate.

Although our study is based on a large, nationally representative group of physicians and had a respectable response rate, there are several limitations. First, respondents were volunteers and those with less positive attitudes toward MOC may have responded at a higher rate. Second, the 1990 cohort was the first 10-year, time-limited internal medicine certificate issued; this group tends to be most irritated that their predecessors hold lifetime certificates. With more recent cohorts, we have observed a wider acceptance of MOC (ABIM internal report, November 2004. Unpublished data.) presumably because of the restorative effects of the passage of time, enhancements to the program (for example, giving MOC credit for society products, such as ACP's Medical Knowledge Self-Assessment Program), collaborative efforts between ABIM and internal medicine societies, and better communication with diplomates. Third, the results are based on self-reported data and responses to whether MOC is required by an employer have not been verified. Finally, some misconceptions about program requirements are evident through review of the comments and incorrect response patterns of certain respondents. These misconceptions may have led to some inaccurate responses.

Despite these limitations, our findings have many important implications. Respondents value professional development—in the form of maintaining or improving one's professional image, updating knowledge, and improving the quality of patient care. This suggests that the profession recognizes maintenance of certification as one way of demonstrating professional development and a commitment to quality. Certifying boards must continue to set standards and develop evaluation programs that assess lifelong learning and practice improvement. Professional societies and certifying boards should work together to develop education and evaluation tools that help physicians maintain high-quality patient care throughout their careers, in a manner that does not unduly burden them in terms of time and resources. In tandem, specialty societies must continue to deliver quality medical education programs and foster professional development by linking education and clinical care in active rather than passive settings (14). The validity of the education and evaluation programs must be continuously assessed through research efforts that include demonstrating the relationship between program participation and performance and the quality of care provided by internists. The ABIM and ACP have committed research resources toward this end. The results of this study provide physicians and professional organiza-

tions with valuable information to help achieve these goals, which ultimately will advance public accountability and optimal patient care.

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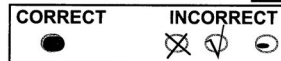
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ABIM	Continuous Professional Development (CPD) Survey
ACP	

This survey was developed by the American Board of Internal Medicine and the American College of Physicians to gain a better understanding of the opinions and actions of general internists and internal medicine subspecialists with regard to maintaining certification. CPD is the ABIM's program for recertification.

Please use black or blue pen



Start Here

1 Which of the following best describes your current status?

Choose one

- Working in the field of internal medicine or its subspecialties
- Not working in the field of internal medicine or its subspecialties but may return
- Working in a medical field other than internal medicine or its subspecialties
- No longer working in medicine
- Retired

2 Is maintaining certification in internal medicine (not including subspecialty) required of you by each of the following?

	Yes ▼	No ▼	Unsure ▼	NA ▼
Academic health center/medical school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HMO or other managed care organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insurance plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medical group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Private, community, or government hospital	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3 Which of the following describes your current CPD status in internal medicine (not including subspecialty)?

Choose one

- Completed CPD program in internal medicine
- Enrolled and plan to complete CPD
- Enrolled, but will probably not complete CPD → skip to Q5
- Never enrolled in CPD → skip to Q5

4 Indicate which one or more of the following reasons describes why you participated in the CPD internal medicine program (not including subspecialty).

Choose all that apply

- Maintain/improve patient satisfaction
- Maintain/improve professional image
- Maintain/improve quality patient care or safety
- Monetary benefits
- Personal preference or interest
- Professional advancement
- Required for employment
- Update knowledge
- Other (please specify):

Please skip to Question 6 on page 2



5 Indicate which one or more of the following reasons describes why you have not enrolled in or not completed the CPD internal medicine program (not including subspecialty).

Choose all that apply

- Changed career path
- Forgot about CPD, but would like to enroll
- IM certificate not expired
- No monetary benefit
- Not required for employment
- Program not relevant to current practice
- Program requirements are unclear
- Program requirements are unreasonable
- Takes too much time
- Too expensive
- Other (please specify):

6 Do you intend to enroll in the CPD internal medicine program (not including subspecialty) in the future?

- Yes → skip to Q8
- No
- Maybe

7 Please recommend any changes to the CPD internal medicine program that would increase the likelihood that you would enroll in the future.

8 Have you ever been certified in an internal medicine subspecialty?

- Yes
- No → skip to Q15

9 Is maintaining certification in your subspecialty required of you by each of the following?

	Yes ▽	No ▽	Unsure ▽	NA ▽
Academic health center/medical school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HMO or other managed care organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insurance plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medical group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Private, community, or government hospital	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10 Which of the following describes your current CPD status in your primary subspecialty (SS)?

Choose one

- Completed CPD program in SS
- Enrolled and plan to complete CPD in SS
- Enrolled, but will probably not complete CPD in SS → skip to Q12
- Never enrolled in CPD in SS → skip to Q12

11 Indicate which one or more of the following reasons describes why you participated in the CPD subspecialty program.

Choose all that apply

- Maintain/improve patient satisfaction
- Maintain/improve professional image
- Maintain/improve quality patient care or safety
- Monetary benefits
- Personal preference or interest
- Professional advancement
- Required for employment
- Update knowledge
- Other (please specify):

**Please skip to Question 13
on page 3**



LLT



12 Indicate which one or more of the following reasons describes why you have not enrolled in or not completed the CPD subspecialty program.

Choose all that apply

- Changed career path
- Forgot about CPD, but would like to enroll
- SS certificate not expired
- No monetary benefit
- Not required for employment
- Program not relevant to current practice
- Program requirements are unclear
- Program requirements are unreasonable
- Takes too much time
- Too expensive
- Other (please specify):

13 Do you intend to enroll in the CPD subspecialty program in the future?

- Yes → skip to Q15
- No
- Maybe

14 Please recommend any changes to the CPD subspecialty program that would increase the likelihood that you would enroll in the future.

15 In which one of the following professional activities do you spend the most hours per week?

Choose one

- Administration
- Clinical Practice
- Research
- Teaching
- Other (please specify):

16 Which one of the following best describes your primary employer?

Choose one

- Self-employed or privately-owned medical group
- Community or private hospital
- Federal government (including military/VA)
- State or local government
- Academic health center / Medical school
- Multi-specialty clinic
- Insurance company or HMO
- Pharmaceutical industry
- Other (please specify):

17 Which of the following categories best describes the percent of your professional time spent in direct patient care?

- None → skip to Q19
- 1 to 24%
- 25 to 49%
- 50 to 74%
- 75% or more





18 How many physicians work in your practice?

- 1 (Solo)
- 2 to 5
- 6 to 10
- 11 to 25
- Over 25

19 Please indicate the extent to which you disagree or agree with each of the following statements.

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree	NA
Allowing my internal medicine certificate to expire would have adverse consequences for my career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Allowing my subspecialty certificate to expire would have adverse consequences for my career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internists working in direct patient care should be certified.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maintenance of certification is necessary for keeping up to date.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patients perceive certified physicians to be more competent than non-certified physicians.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peers perceive certified physicians to be more competent than non-certified physicians.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The requirements for CPD are appropriate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20 If you have any additional comments about the CPD program, please write them in the box below.

Thank You

Please return to:
 The Research Center
 American College of Physicians
 190 N. Independence Mall West
 Philadelphia, PA 19106-1572

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